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January 8, 2010

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BY ELECTRONIC MAIL
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Wen-Mae Wang
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street, AIR-4
San Francisco, CA 94105

**Re: Request for Applicability Determination under 40 C.F.R. Part 60, Subpart AAAA
New Source Performance Standards ("NSPS") for New Small Municipal Waste
Combustion Units**

Dear Ms. Wang:

On behalf of our client Fulcrum BioEnergy, Inc. ("Fulcrum"), we write to request an applicability determination under 40 C.F.R. Part 60, Subpart AAAA—New Source Performance Standards ("NSPS") for New Small Municipal Waste Combustion Units ("Subpart AAAA") with respect to Fulcrum's proposed facility in McCarran, Nevada. The facility will convert post-sorted municipal solid waste ("MSW") feedstock into an intermediate product, synthesis gas, which will then be conditioned and processed further to produce ethanol and renewable power (the "Facility").

We have consulted extensively with EPA's Office of Air Quality Planning and Standards ("OAQPS"), Office of Enforcement and Compliance Assurance ("OECA"), and Office of Solid Waste ("OSW") on the applicability of Subpart AAAA to the technologies integrated into the Facility.¹ As a result of these consultations, we understand that Subpart AAAA would not be applicable to the Facility, though we request Region 9's formal concurrence. Mr. Brian Shrager at Research Triangle Park—who led EPA's consultation team—suggested that we contact you with our applicability determination request, and has said that he would be pleased to discuss the

¹ We understand that the multi-office consultation team analyzed the applicability of Subpart AAAA to the Facility's flare, and that OAQPS itself drew initial applicability conclusions on the other issues independently.

bases for the team's informal conclusions with you. In order to meet our air permitting and commencement of construction schedule, it would be enormously helpful to receive EPA's formal determination no later than April 30, 2010. We trust that EPA's prior multi-office consultation will facilitate the consideration by EPA Region 9 of our request.

In particular, we request applicability determinations regarding the following:

1. That Subpart AAAA is inapplicable to Fulcrum's syngas generation units (comprised of a down-draft partial oxidation gasifier coupled with a Plasma Enhanced Melter™ system, followed by a thermal residence chamber) using post-sorted MSW as a feedstock;
2. That the combustion of post-sorted MSW-derived syngas in a combined cycle combustion turbine is exempt from Subpart AAAA as long as the turbine qualifies as a small power producer or cogeneration unit under the Federal Power Act; and
3. That Subpart AAAA is inapplicable to air pollution control devices, even if as a part of its function the device combusts small quantities of post-sorted MSW-derived syngas.

Part I below includes a brief description of the Facility. Part II.A addresses the applicability of Subpart AAAA to the partial oxidation gasification system that initially converts the post-sorted MSW into synthesis gas, and concludes that partial oxidation is neither combustion nor pyrolysis subject to Subpart AAAA. Part II.B addresses the applicability of Subpart AAAA to the combined-cycle gas turbine used to generate on-site electricity and heat, and concludes that the cogeneration and/or small power producer provisions apply to exempt the gas turbine from Subpart AAAA. Part II.C addresses the applicability of Subpart AAAA to the air pollution control flare at the Facility, and concludes that as an air pollution control device, the flare is not subject to Subpart AAAA. Part III is a brief conclusion.

I. Facility description and background

Utilizing new and existing technologies in an innovative, clean, and efficient process, Fulcrum is leading the next generation of clean, sustainable alternative transportation fuels with the development of Project Sierra, located approximated 20 miles east of Reno, Nevada in the Tahoe-Reno Industrial Center in McCarran, Storey County, Nevada. The Facility will be configured with three syngas generation units, each comprised of a down-draft partial oxidation gasifier coupled with a patented Plasma Enhanced Melter™ ("PEM™") system followed by a thermal residence chamber ("TRC") and a heat recovery steam generator ("HRSG"). The syngas generation units are designed to maximize the conversion of post-sorted MSW feedstock to an intermediate product—syngas. Once conditioned and further processed, approximately two-thirds of the syngas will be converted into a final product—cellulosic ethanol—and the remainder used in the combustion turbine combined-cycle generator to generate electricity to operate the plant. As an overview, a brief summary of the Fulcrum Process is described below. A process overview flow diagram is provided in Figure 1. Descriptions of each major component of the process follows.

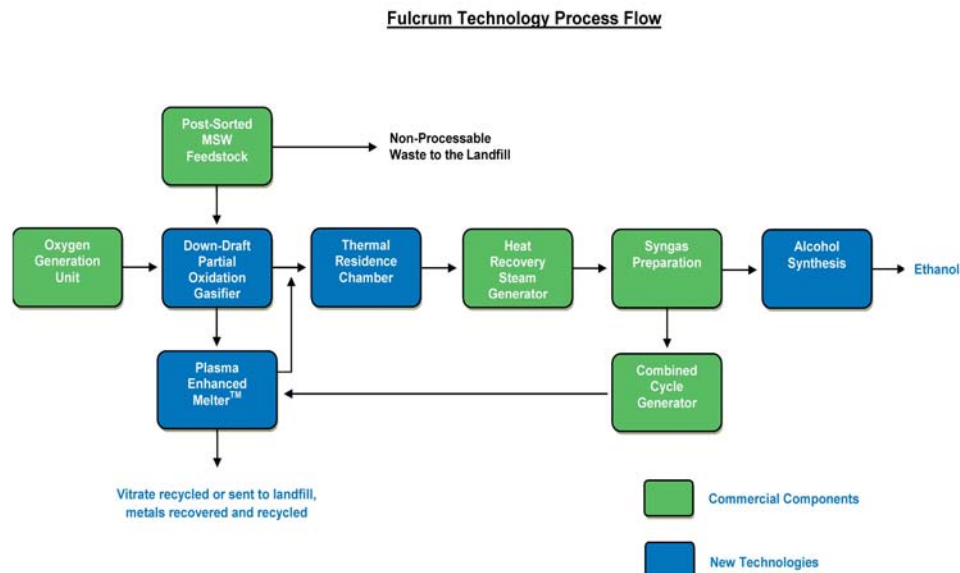


Figure 1. Process Overview

1. Feedstock

The organic (or “carbonaceous”) fraction of post-recycled MSW is used as feedstock for the Facility. MSW from residential and commercial collection is aggregated by Fulcrum’s suppliers and initially processed to remove large, high-density inorganic objects and recyclables. It will be delivered to the site by trailers and shredded to a reduced size, four inches and smaller, in an enclosed processing and storage building. The sized organic feedstock is moved by conveyor to the syngas generation units. The Facility is designed to gasify about 125 tons of feedstock each day in each of its three syngas generation units.

2. Syngas Generation Units

The Facility will operate with three syngas generation units, each comprised of a down-draft partial oxidation gasifier, a PEM™ system, a TRC, and HRSG. The syngas gasification process couples a down-draft partial oxidation gasifier with a proprietary PEM™ system resulting in a highly efficient and economical system.

(a) Down-Draft Partial Oxidation Gasifier

The gasification process licensed from InEnTec LLC uses thermochemical technology to create a chemical reaction in an oxygen-lean, non-combustion environment that converts the feedstock into syngas. The down-draft partial oxidation gasifier will convert about 80% by weight of the feedstock into syngas; the remaining organic material will be converted by the PEM™ system. To aid the thermochemical reaction, the gasifier uses 99.5% pure oxygen prepared at an on-site cryogenic oxygen plant.

(b) Plasma Enhanced Melter™ System

The PEM™ system will accomplish the two distinct operations of gasification and vitrification. Any un-reacted organic material, about 10% of the feedstock by weight, will be gasified and combined with the syngas from the gasifier prior to entering the TRC. Inorganic materials will melt and form a molten glass pool at the bottom of the chamber. The glassified inorganic

materials, called vitrate, will be removed in their molten state and cooled. The vitrate is stable and non-leachable and can be put to beneficial use (*e.g.*, construction materials) or disposed in accordance with federal, state, and local requirements. Incidental and trace metals will be converted into a mixed metal alloy and recycled to the metals industry.

(c) Thermal Residence Chamber (“TRC”) and Heat Recovery Steam Generator (“HSRG”)

The syngas from both the down-draft partial oxidation gasifier and PEMTM system are combined and routed to the TRC, a refractory-lined cylindrical chamber that provides additional residence time at high temperature in the presence of oxygen to thermally crack hydrocarbons present in the syngas and allows the gasification reactions to reach equilibrium. The syngas discharged from the TRC contains a mixture of hydrogen, carbon monoxide, carbon dioxide, nitrogen, steam, acid gases, and particulates. It will leave the TRC and flow into one of three HRS generators, which will recover heat from the syngas to preheat syngas entering the alcohol synthesis reactors. The syngas streams from all three HRSs will be combined, then sent to the syngas preparation system for conditioning.

3. Syngas Preparation System

The syngas from the three HRSs will be combined and ducted to the syngas preparation system, which will filter it to remove particulates, trace contaminants, and moisture. It will be compressed to an intermediate pressure before it is subjected to an absorption process to remove sulfur. The recovered sulfur will be sold or disposed in compliance with regulatory requirements. Activated carbon guard beds will remove mercury, chlorine, and other contaminants to protect the alcohol synthesis catalyst. The guard beds will be periodically removed and recycled by the bed provider. The syngas will be compressed to a higher pressure before it is sent to the alcohol synthesis loop process, where it is converted to alcohol.

4. Ethanol Production

Two-thirds of the cleaned and conditioned syngas will pass through a catalytic reactor in the alcohol synthesis loop process to be converted into ethanol. Nipawin Biomass Ethanol New Generation Co-operative Ltd and the Saskatchewan Research Council have jointly developed and own a proprietary catalyst that Fulcrum has integrated into its alcohol synthesis loop process. The ethanol will be cooled and condensed before it is sent to the alcohol separation equipment, where excess water and any alcohol co-products will be removed to ensure that the ethanol is transportation-grade. The ethanol will then be transferred to above-ground storage tanks in preparation for shipment to market. Of the 375 tons per day of feedstock, approximately 250 tons per day or two-thirds of the converted syngas is used to produce alcohol, yielding approximately 120 gallons of cellulosic ethanol per ton of feedstock, or 10.5 million gallons of cellulosic ethanol per year.

5. Combustion Turbine Combined-Cycle Generator

The remaining one-third of the conditioned syngas will be combusted in a combined-cycle gas turbine generator for the production of approximately 14.7 megawatts of renewable electricity, meeting nearly all of the Facility electricity requirements.

6. Ground Level Enclosed Flare

The ground level enclosed flare will provide the Facility direct-fired combustion and subsequent abatement of emissions of syngas and other volatile organic compounds (“VOC”) released from the Facility. The flare will be used to control syngas emissions released from the syngas preparation system (during startup, shutdown, malfunctions and steady-state operations), the sulfur removal system, and the relief valves and distillation receiver vessels in the ethanol production process. The flare will also control VOC-related emissions from the ethanol product storage tanks, off-spec products storage tank, ethanol product day storage, and product loading area. As an air pollution control device, the Nevada Department of Conservation and Natural Resources, Division of Environmental Protection, Bureau of Air Pollution (“NDEP”) has established permit conditions to ensure the operation of the flare will comply with the requirements outlined in NSPS 40 C.F.R. Part 60, Subpart A, General Control Device Requirements (“Subpart A”)

A Class II (minor source) Air Quality Operating Permit (“Air Permit”) was issued to Fulcrum Sierra BioFuels, LLC (“Sierra BioFuels”) on April 21, 2008 under the NDEP rules for a minor source permit. On May 15, 2009, NDEP issued a draft of the revised Air Permit (No.AP2869-2382) to reflect changes in equipment design, operating efficiencies and process improvements and the final permit was issued on September 23, 2009. Sierra BioFuels is following up with additional modifications to the Air Permit to include the emission units associated with electricity generation.

II. Subpart AAAA appears inapplicable to the syngas gasification process, the combined cycle combustion turbine, and the air pollution control flare

Section 129 of the Clean Air Act authorizes EPA to establish New Source Performance Standards for solid waste incineration units. *See* 42 U.S.C. § 7429. The statute defines a solid waste incineration unit as a “distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments or the general public.” *Id.* § 7429(g)(1). Solid waste is defined by reference to the Solid Waste Disposal Act, which specifies that solid waste includes “contained gaseous material.” *See* 42 U.S.C. § 7429(g)(6) (referencing SWDA) and § 6903 (definition of solid waste).

Pursuant to these statutory authorities, EPA promulgated the regulations at Subpart AAAA for small municipal waste combustion units (“MWCU”). An MWCU is “any setting or equipment that combusts solid, liquid, or gasified municipal solid waste, including . . . pyrolysis/combustion units.” 40 C.F.R. § 60.1465. A pyrolysis/combustion unit is any unit “that produces gases, liquids, or solids by heating municipal solid waste. The gases, liquids, or solids produced are combusted and the emissions vented to the atmosphere.” *Id.*

A. Subpart AAAA appears inapplicable to the syngas gasification process

EPA guidance documents and technical reports, as well as Department of Energy (“DOE”) technical reports, clearly distinguish gasification from combustion and pyrolysis. As set forth in more detail below, the Facility’s syngas gasification process (comprised of the down-draft partial

oxidation gasifiers coupled with the PEMTM system) neither combusts nor pyrolyzes MSW. Because Subpart AAAA applies only to MSW combustion or pyrolysis/combustion, we do not believe that the syngas gasification process is an NSPS affected facility.

1. The gasification process is not combustion, and does not appear to be subject to Subpart AAAA

Combustion and gasification are terms commonly used to describe two contrasting means of converting carbonaceous materials. In contrast to combustion, where the chemical bonds are broken by oxidation, gasification describes a process in which the chemical bonds are broken by thermal energy in a controlled low-oxygen environment. EPA guidance and precedents recognize this critical distinction, and have confirmed that partial oxidation processes are *not* considered a “combustion” process.

In an applicability determination under a predecessor rule to Subpart AAAA, EPA found that a starved air gasifier was not subject to the NSPS for municipal incinerators. The EPA determination explained that the NSPS standard was “based upon a situation where municipal waste is burned by complete oxidation in a combustion chamber,” in contrast to the facility at issue, which “only *partially oxidizes* the solid waste material under starved oxygen conditions, and captures the entire hot combustible gas generated in the process for by-product usage.” Letter from Clark L. Gaulding, Chief, Air Programs Branch, EPA Region X, to Alan Newman, Air Quality Engineer, Washington Department of Ecology (April 12, 1977) (emphasis added). This interpretation essentially describes the Fulcrum partial oxidation process, and confirms that EPA does not consider partial oxidation gasification as combustion subject to NSPS standards.

The DOE also recognizes the distinction between combustion and gasification:

Gasification is a thermal chemical conversion process designed to maximize the conversion of the carbonaceous fuel and waste to a synthetic gas (syngas) containing primarily carbon monoxide and hydrogen (over 85%) with lesser amounts of carbon dioxide, water, methane, argon, and nitrogen. The chemical reactions take place in the presence of steam in an oxygen-lean reducing atmosphere, *in contrast to combustion where reactions take place in an oxygen-rich, excess air environment.*

DEPT. OF ENERGY NATIONAL ENERGY TECHNOLOGY LABORATORY, A COMPARISON OF GASIFICATION AND INCINERATION OF HAZARDOUS WASTES (DCN 99.803931.02) 2-7 (2000) (emphasis added).

Subpart AAAA applies only to “new small municipal waste combustion units,” 40 C.F.R. § 60.1000, which are in turn defined as “any setting or equipment that *combusts* solid, liquid, or gasified municipal solid waste” *Id.* § 60.1465 (definition of “municipal waste combustion unit”) (emphasis added). Because both EPA and DOE have concluded that partial oxidation gasification is *not* combustion, the technologies Fulcrum is integrating into its syngas generation units do not combust municipal solid waste and therefore do not appear to be “municipal waste combustion units” subject to Subpart AAAA. OAQPS concurs with this conclusion.

2. The syngas gasification process is not pyrolysis, and does not appear to be subject to Subpart AAAA

The definition of “municipal waste combustion units” also includes “pyrolysis/combustion units.” *See id.* Subpart AAAA defines a “pyrolysis/combustion unit” as “a unit that produces gases, liquids, or solids by heating municipal solid waste. The gases, liquids, or solids produced are combusted and the emissions vented to the atmosphere.” *Id.* (definition of “pyrolysis/combustion unit”). Accordingly, to be considered a “pyrolysis/combustion unit” there must be a conversion process that can be considered “pyrolysis,” *and* then there must be combustion of the products of pyrolysis.²

EPA has recognized the distinction between pyrolysis and gasification where it describes thermochemical gasification as a process that takes place in the *presence* of oxygen, and thermochemical pyrolysis as a process that takes place in the *absence* of oxygen. *See* ENVTL PROTECTION AGENCY, BIOMASS CONVERSION: EMERGING TECHNOLOGIES, FEEDSTOCKS, AND PRODUCTS 16, 30 (2007). EPA specifically corrects some technical literature’s reference to the first step in the gasification process as pyrolysis, indicating that gasification is not the same as the pyrolyzation of biomass discussed in its report. *See, id.* at 13, n.31.

Fulcrum is deploying partial oxidation gasification technology that adds oxygen into two points in the syngas gasification process: the down-draft partial oxidation gasifier; and the TRC—which provides additional residence time at high temperature in the presence of oxygen to thermally crack hydrocarbons present in the syngas and allows the gasification reactions to reach equilibrium. As a result of the use of oxygen, EPA would not consider the gasification process to be pyrolysis. Consequently, Fulcrum’s syngas generation units are not “pyrolysis/combustion units,” and therefore do not appear to be subject to Subpart AAAA. OAQPS concurs with this conclusion.

B. The gas turbine appears to be exempted from the application of Subpart AAAA

Despite the fact that the syngas generation units are not affected facilities under Subpart AAAA, the gas turbine is presumptively covered by Subpart AAAA because it actually combusts gasified MSW. Subpart AAAA defines a municipal solid waste combustion unit as “any setting or equipment that combusts solid, liquid, or *gasified municipal solid waste*.” 40 C.F.R. § 60.1465 (definition of “municipal solid waste combustion unit”). In the 1995 regulatory preamble to the original MSW NSPS, EPA stated: “[m]unicipal solid waste combustion includes the direct combustion of MSW or the combustion of MSW gases from pyrolysis or gasification.” 60 Fed. Reg. 65,387, 65,391 (1995). For purposes of this request, Fulcrum will assume that the

² *See also* 60 Fed. Reg. 65387, 65391 (Dec. 19, 1995) (“[m]unicipal solid waste combustion includes the direct combustion of MSW or the combustion of MSW gases from pyrolysis or gasification”); Memorandum from Edward E. Reich, Director, Division of Stationary Source Enforcement, EPA, to Douglas C. Hansen, Director, Air and Hazardous Materials Division, EPA (January 19, 1977) (“a pyrolysis plant does not fall within the definition of a municipal incinerator and therefore is not subject to the requirements of NSPS”).

syngas would be considered by EPA to be “gasified municipal solid waste,” the combustion of which triggers Subpart AAAA.³

Nevertheless, Subpart AAAA contains at least two exemptions that are applicable to the gas turbine: the small power production facility exemption and the cogeneration facility exemption. To the extent the Facility demonstrates its qualification for these exemptions, Subpart AAAA would appear to be inapplicable to the gas turbine.

1. The small power production facility exemption

Subpart AAAA provides:

You are exempt from this subpart if you meet four requirements:

- (1) Your unit qualifies as a small power production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)).
- (2) Your unit combusts homogeneous waste (excluding refuse-derived fuel) to produce electricity.
- (3) You notify the Administrator that the unit qualifies for the exemption.
- (4) You provide the Administrator with documentation that the unit qualifies for the exemption.

40 C.F.R. § 60.1020(b)(1)–(4). The applicability of these four requirements are examined below.

(a) Federal Power Act requirements

The Federal Power Act defines “small power production facility” to mean a facility that produces electric energy “solely by the use, as a primary energy source, of biomass, waste, renewable resources, geothermal resources, or any combination thereof.” 16 U.S.C. § 796(17)(A). A “qualifying” small power production facility is one that meets Federal Power Commission requirements as follows:

- The facility must produce electric energy solely by the use, as a primary energy source, of “any organic material not derived from fossil fuels” (biomass) or “any energy input that has little or no current commercial value and exists in the absence of the qualifying facility industry (waste). *See* 16 U.S.C. § 796(17) (definition of small power production facility) & 18 C.F.R. § 292.202(a) (definition of “biomass” and “waste”).

³ Comments on the original MSW combustor rule suggested that MSW-based vapor or gas might not be considered a “solid” waste subject to regulation under the rules. *See* Background Information Document at 3-9. However, the Clean Air Act references the Solid Waste Disposal Act definition of solid waste, which clearly states that solid waste includes “contained gaseous material.” *See* 42 U.S.C. § 7429(g)(6) (referencing SWDA) and § 6903 (definition of solid waste).

- The combined power production capacity of the facility and of all other affiliated generation facilities using the same power source located within one mile of the facility must not exceed 80MW. *See* 18 C.F.R. § 292.204.
- Seventy-five percent or more of the primary energy source must be made up of biomass, waste, or any combination thereof. *See id.* A primary energy source which on the basis of its energy content is fifty percent or more biomass shall be considered biomass
- Oil, natural gas, or coal may not be used for any purpose other than ignition, startup, testing, flame stabilization and control, or to alleviate or prevent unanticipated equipment outages and emergencies that would result from power outages. *See id.*
- The percentage of oil, natural gas or coal used for ignition, startup, testing, flame stabilization and control, or to alleviate or prevent unanticipated equipment outages and emergencies that would result from power outages must be less than 25% of the total annual energy input of the facility. *See id.*
- Form 556 (self-certification) must be filed with FERC with a copy to the Nevada PUC. *See* 18 C.F.R. § 292.207(a).

Fulcrum will meet each of these requirements, and will demonstrate its compliance with each requirement in its state construction permit application. Accordingly, for purposes of this request, we ask that EPA assume that Fulcrum will demonstrate compliance with these requirements.

(b) Homogeneous waste

The Subpart AAAA exemption for small power production facilities requires that an exempt unit combust homogenous waste, excluding refuse-derived fuel, to produce electricity. Because “homogeneous” is not defined by Section 129 or Subpart AAAA, we take the dictionary definition as its plain meaning: “of the same or a similar kind or nature.” EPA has affirmed, however, that the waste must have a single “same or similar kind or nature,” and excludes mixed waste (*e.g.*, tires and yard trimmings) from its view of homogeneity. *See* ENVT’L PROTECTION AGENCY, MUNICIPAL WASTE COMBUSTION: BACKGROUND INFORMATION DOCUMENT FOR PROMULGATED STANDARDS AND GUIDELINES 3-18 (1995) (“Section 129 does not provide this exemption for mixed waste streams . . .”). As we have outlined above, the only unit that will “combust” MSW is the combined-cycle gas turbine. And though there might be some natural variability in the intermediate product, syngas, produced from the gasification of the MSW, the molecular composition of the syngas, we understand will be generally “of the same or a similar kind or nature,” and therefore homogeneous. Therefore, the fuel combusted in the gas turbine will be homogeneous syngas derived from the gasification of MSW.

We also understand that a limited amount of natural gas may be combusted in the gas turbine for the purpose of startups and upsets (in order to alleviate or prevent unanticipated equipment outages and emergencies that would result from power outages). The question then becomes whether these limited quantities of natural gas would render the syngas non-homogeneous. We

believe the gas turbine will combust homogeneous waste because natural gas and syngas will not be co-fired in the gas turbine. Instead, natural gas may be used for startup, with syngas replacing the natural gas once the unit is started. Similarly, natural gas may be used in the case where the syngas supply is interrupted due to an upset condition. There, natural gas would replace syngas for a period of time until syngas production is restored. In these situations, to the extent gasified MSW is combusted, it is combusted homogeneously and not co-fired with natural gas. OAQPS concurs with this conclusion.

(c) Notification and documentation

In order to meet the requirements of the small power production facility exemption, the regulations require that a facility notify EPA that the unit qualifies for the exemption, and also provide supporting documentation.

2. The cogeneration facility exemption

Subpart AAAA provides:

You are exempt from this subpart if you meet four requirements:

- (1) Your unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)).
- (2) Your unit combusts homogeneous waste (excluding refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes.
- (3) You notify the Administrator that the unit qualifies for the exemption.
- (4) You provide the Administrator with documentation that the unit qualifies for the exemption.

40 C.F.R. § 60.1020(c)(1)–(4). The applicability of these four requirements are examined below.

(a) Federal Power Act requirements

The Federal Power Act defines a “cogeneration facility” as “a facility which produces electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating, or cooling purposes.” 16 U.S.C. § 796(18)(A). A “qualifying” cogeneration facility is one that meets Federal Power Act requirements as follows:

- The facility must include equipment used to produce electric energy. *See* 18 C.F.R. § 292.202(c)
- The facility must also produce forms of useful thermal energy (such as heat or steam). *See id.*
- The thermal energy must be used for industrial, commercial, heating, or cooling purposes. *See id.*
- The thermal energy must be derived through the sequential use of energy. *See id.*

- The useful thermal energy output of the facility must be no less than 5% of the total energy output during the 12-month period beginning with the date the facility first produces electric energy and in any calendar year subsequent to the year in which the facility first produces electric energy? *See id.* § 292.205(a)(1).
- If natural gas or oil will be used in the gas turbine, then the useful power output plus half the useful thermal energy of the facility must be no less than 42.5 percent of the total energy input of the natural gas or oil (unless the useful thermal energy is less than 15% of total energy output, in which case the efficiency requirement is 45 percent). *See id.* § 292.205(a)(2).
- Form 556 (self-certification) must be filed with FERC with a copy to the Nevada PUC. *See* 18 C.F.R. § 292.207(a).

Fulcrum will meet each of these requirements, and will demonstrate its compliance with each requirement in its state construction permit application. Accordingly, for purposes of this request, we ask that EPA assume that Fulcrum will demonstrate compliance with these requirements.

(b) Homogeneous waste

Our assessment of the homogeneous fuel requirement is the same as for the small power production facility exemption above. We understand that the combined-cycle gas turbine system will produce process steam for the syngas generation units and ethanol production process, and would therefore use steam for an industrial purpose.

(c) Notification and documentation

In order to meet the requirements of the cogeneration facility exemption, the regulations require that a facility notify EPA that the unit qualifies for the exemption, and also provide supporting documentation.

C. Subpart AAAA appears inapplicable to the air pollution control flare

The Facility will have a flare permitted under Subpart A to control syngas emissions released from the syngas preparation system (during startup, shutdown, malfunctions and steady-state operations), the sulfur removal system, and the relief valves and distillation receiver vessels in the ethanol production process. The flare will also control VOC-related emissions from the ethanol product storage tanks, off-spec products storage tank, ethanol product day storage, and product loading area. Under Fulcrum's conservative approach, all syngas at the Facility derived from MSW is itself considered MSW. Combusting the MSW-derived syngas at the flare raises the question whether the flare itself is a municipal solid waste combustion unit. However, the definition of "municipal solid waste combustion unit" in Subpart AAAA specifically excludes air pollution control devices from the facility affected by the NSPS: "The municipal solid waste combustion unit does not include air pollution control equipment" 40 C.F.R. § 60.1465 (definition of "municipal solid waste combustion unit"). Accordingly, Subpart AAAA appears inapplicable to the flare. OAQPS, OECA, and OSW concur with this conclusion.

Ms. Wen-Mae Wang

January 8, 2010

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III. Conclusion

In light of the foregoing, we request EPA Region 9's concurrence with our conclusions and the conclusions of the multi-office consultation group led by OAQPS on the applicability of 40 C.F.R. Part 60, Subpart AAAA, New Source Performance Standards for New Small Municipal Waste Combustion Units, to Fulcrum's new facility.

If we can provide you with any additional information, please do not hesitate to contact me by phone or email.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick D. Traylor". The signature is stylized with a large, sweeping initial "P" and a long, horizontal stroke extending to the right.

Patrick D. Traylor

cc: Jeanne Benedetti, Fulcrum BioEnergy, Inc.